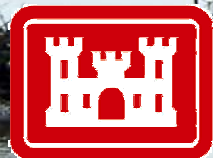


# Restoration & Protection in the Louisiana Coastal Area

2 June 2006



**US Army Corps  
of Engineers**  
New Orleans District

**New Orleans District**

**Coastal Restoration Branch**



# **La. Coastal Area Plan Components**

- **Near-term Critical Restoration Features for Conditional Authorization.**
- **Other Near-term Critical Restoration Features Recommended for Study and Future Congressional Authorization.**
- **Science and Technology (S&T) Program.**
- **Science and Technology Program Demonstration Projects.**
- **Programmatic Authorization for the Beneficial-Use of Dredged Material Program.**
- **Programmatic Authorization for Investigations of Modifications to Existing Structures.**
- **Large-scale and Long-term Concepts Requiring Detailed Studies.**



# Louisiana Coastal Area Ecosystem Restoration

## Critical restoration features:

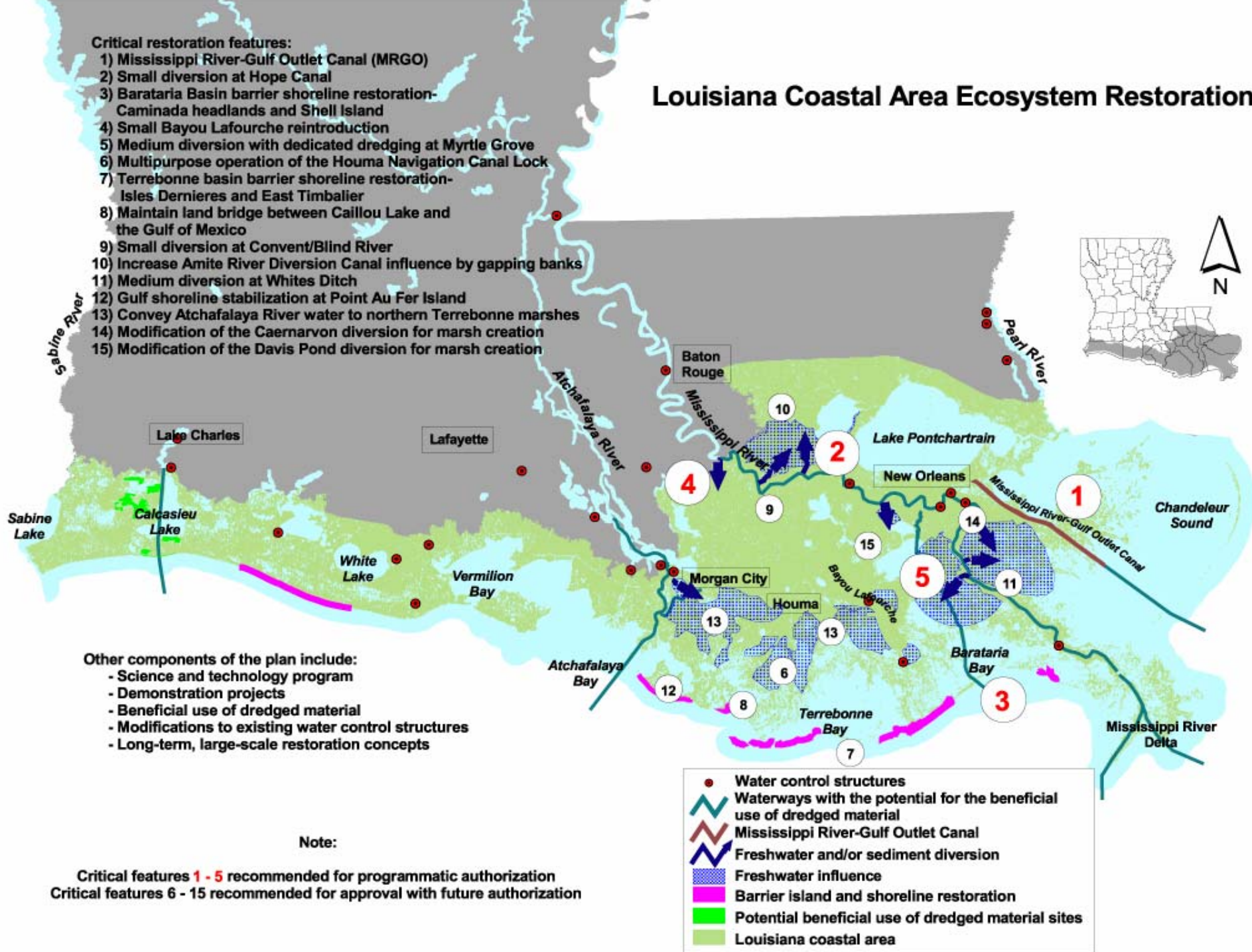
- 1) Mississippi River-Gulf Outlet Canal (MRGO)
- 2) Small diversion at Hope Canal
- 3) Barataria Basin barrier shoreline restoration-Caminada headlands and Shell Island
- 4) Small Bayou Lafourche reintroduction
- 5) Medium diversion with dedicated dredging at Myrtle Grove
- 6) Multipurpose operation of the Houma Navigation Canal Lock
- 7) Terrebonne basin barrier shoreline restoration-Isles Dernieres and East Timbalier
- 8) Maintain land bridge between Caillou Lake and the Gulf of Mexico
- 9) Small diversion at Convent/Blind River
- 10) Increase Amite River Diversion Canal influence by gapping banks
- 11) Medium diversion at Whites Ditch
- 12) Gulf shoreline stabilization at Point Au Fer Island
- 13) Convey Atchafalaya River water to northern Terrebonne marshes
- 14) Modification of the Caernarvon diversion for marsh creation
- 15) Modification of the Davis Pond diversion for marsh creation

## Other components of the plan include:

- Science and technology program
- Demonstration projects
- Beneficial use of dredged material
- Modifications to existing water control structures
- Long-term, large-scale restoration concepts

Note:

Critical features 1 - 5 recommended for programmatic authorization  
 Critical features 6 - 15 recommended for approval with future authorization



# *LCA Plan Cost Table*

Conditionally Authorized Near-term Features	\$828,300,000
Science & Technology Program	\$100,000,000
Demonstration Projects Program	\$ 95,000,000
Beneficial Use Dredge Material Program	\$100,000,000
Investigation of Modifications to Existing Structures	\$10,000,000

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**Total Conditionally Authorized Components**      **\$1,123,300,000**

Near-term Feature Decision Documents	\$70,000,000
Large-scale, Long-term Studies	\$60,000,000
Investigations of Modification to Existing Structures	\$10,000,000
Demonstration Project Decision Documents	\$5,000,000

---

**Total Currently Authorized Investigations**      **\$145,000,000**

**Total Congressionally Authorized Components**      **\$728,200,000**

<b>Total LCA Ecosystem Restoration</b>	<b>\$1,996,500,000</b>
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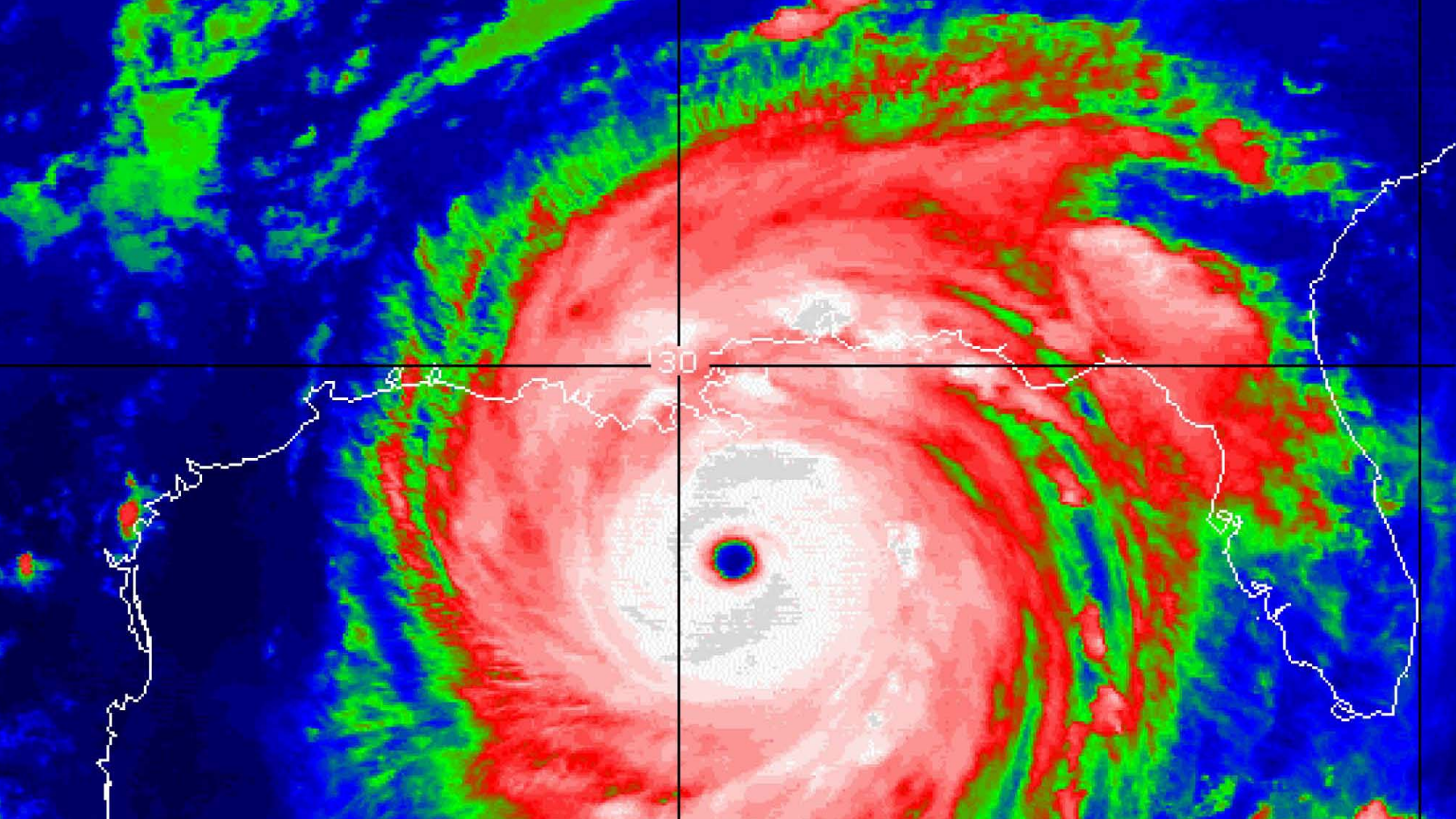
# ***LCA Plan Status***

- **Chief of Engineers Report & Federal / State partnering agreement signed on January 31<sup>st</sup>**
- **Expecting Congressional action on the LCA Plan in 2005**
- **Federal 2005 budget contained \$8.5 million for LCA**
- **Federal 2006 budget provides \$21 million for LCA**
- **State cost sharing expenditures 50/50**

# ***FY 2005 Work***

- **Science & Technology (S&T) Program development**
- **Barrier Shoreline Feasibility Study completion**
- **Long-range Beneficial Use of Dredged Material plan development**
- **St Bernard & Vicinity Ecosystem Restoration plan development and Pontchartrain basin hydrologic assessment**
- **Development of Long-distance Sediment Transport Demonstration Project (through S&T Program)**
- **Initiation of Davis Pond and Caernarvon Diversions modification studies**
- **Additional LCA Plan feature development**





# Louisiana Coastal Loss Due to Hurricane Katrina





Fort Pike at The Rigolets  
Orleans Parish, LA





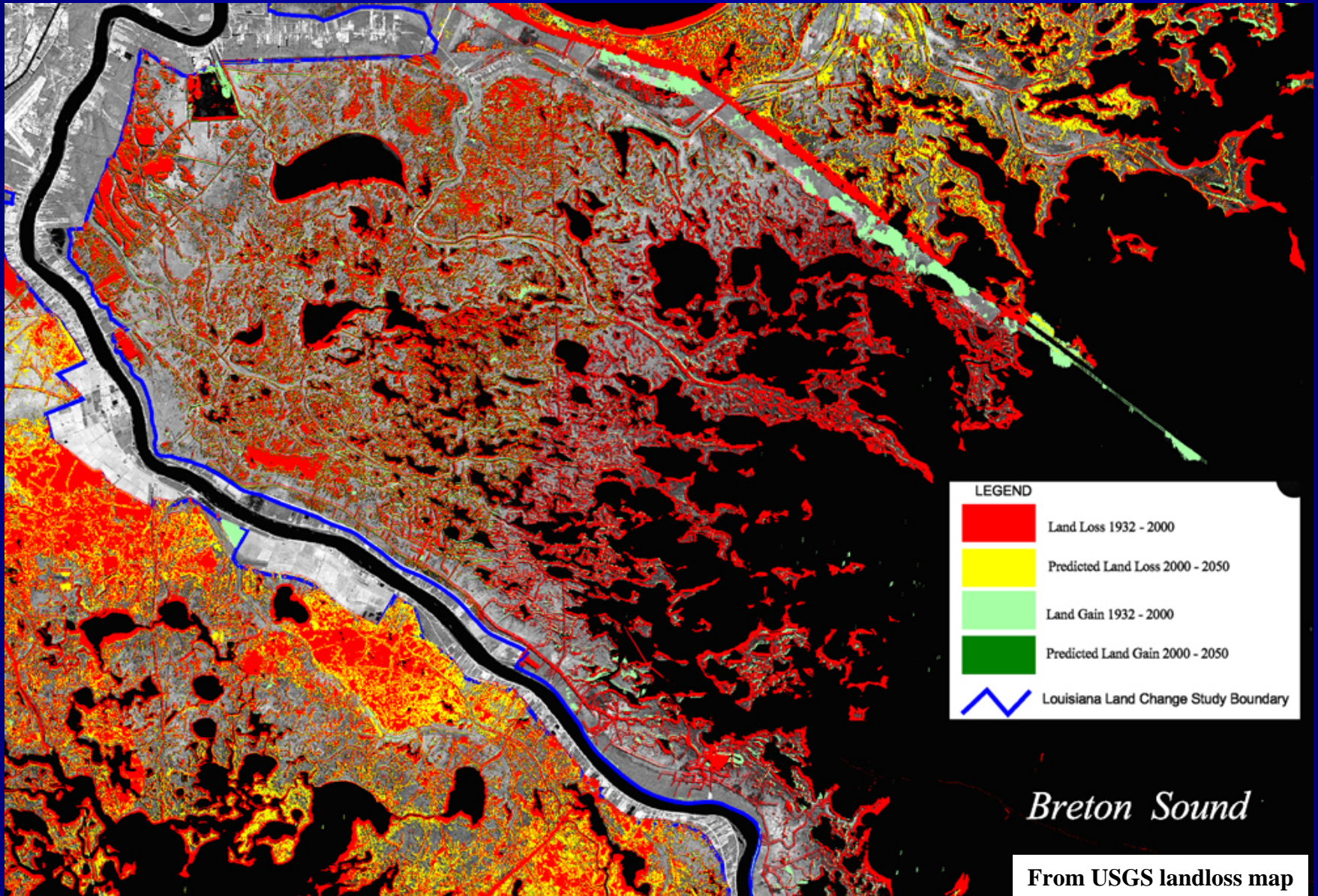
Alligator Point  
Orleans Parish, LA



Proctor Point  
St. Bernard Parish, LA



# Historic and Projected Landloss in the Vicinity of the Caernarvon Diversion

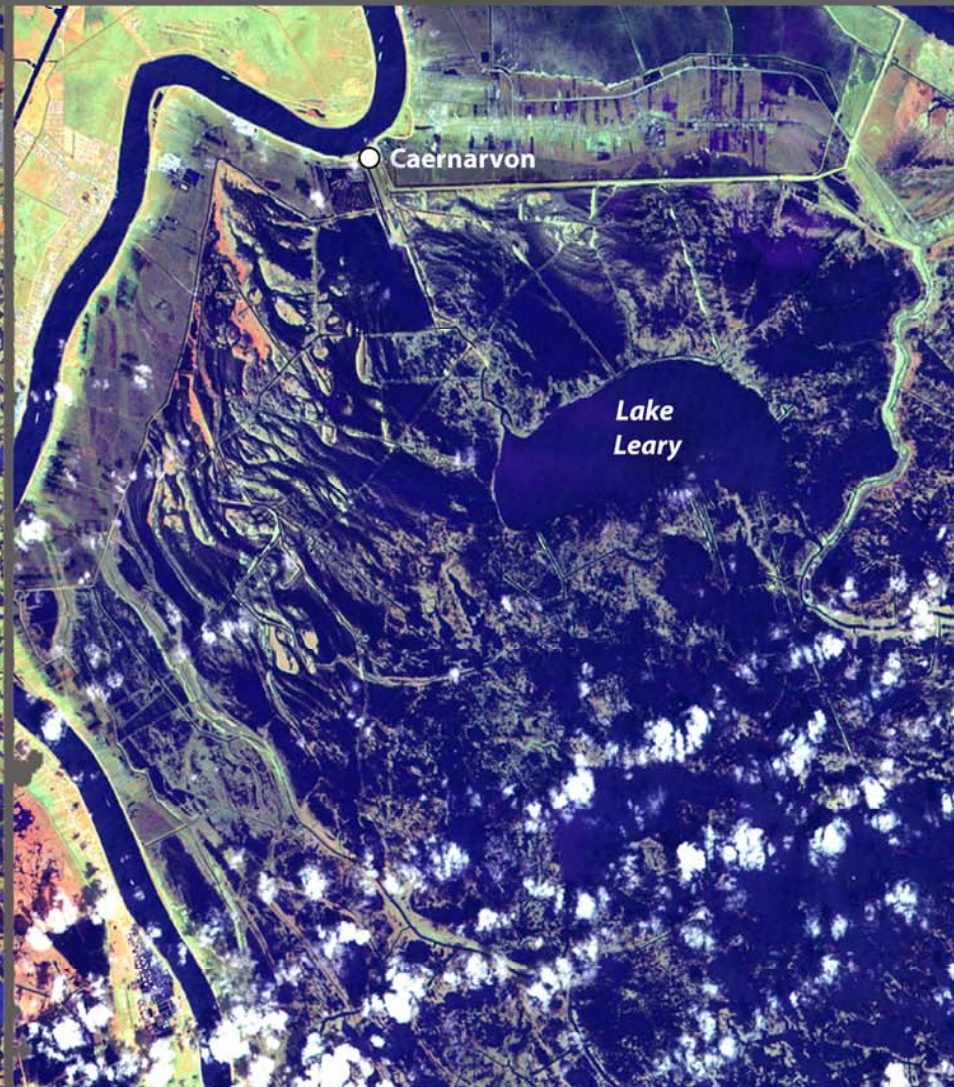
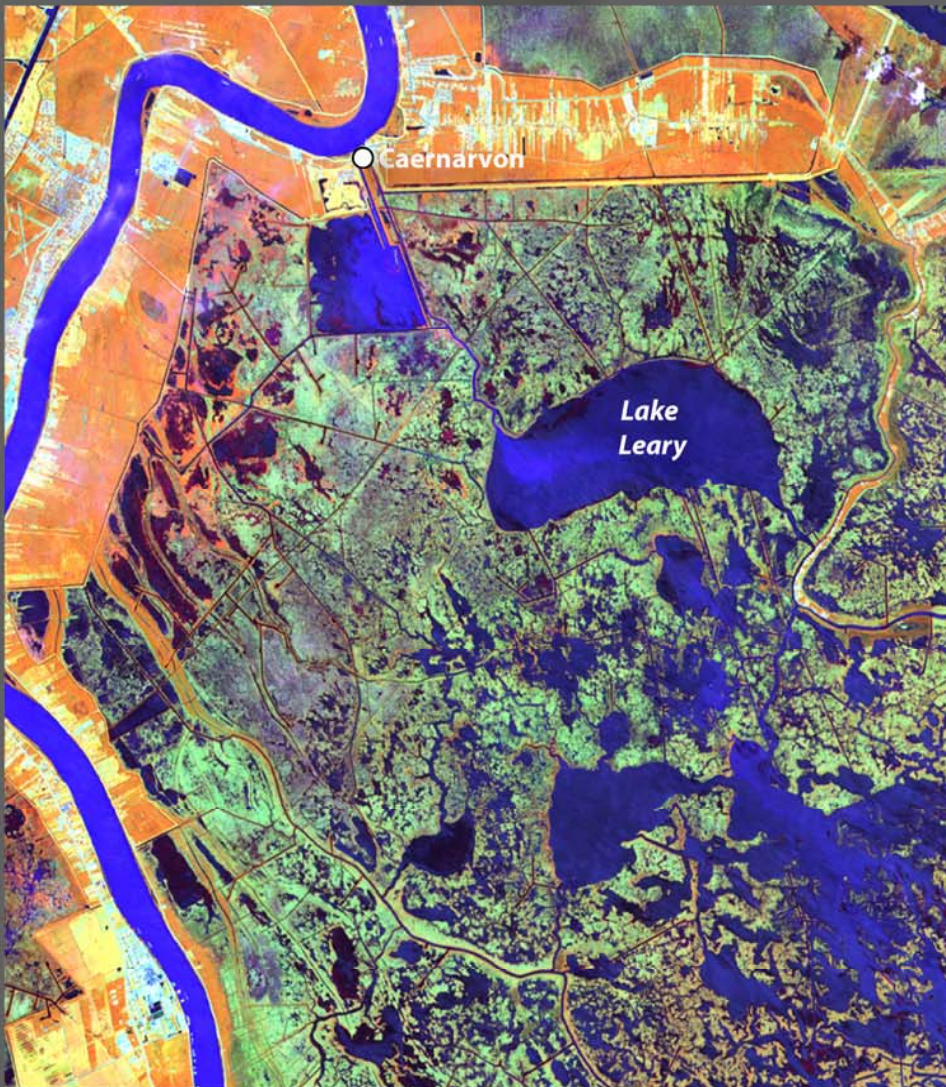




*Landsat Thematic Mapper 5 Hurricane Katrina Comparison Images  
Upper Breton Sound Area*

April 16, 2004

September 7, 2005



Source: USGS NWRC  
Landsat Thematic Mapper Satellite Imagery provided by EROS Data Center  
Bands 4 (near-ir), 5 (mid-ir), and 3 (visible red) displayed

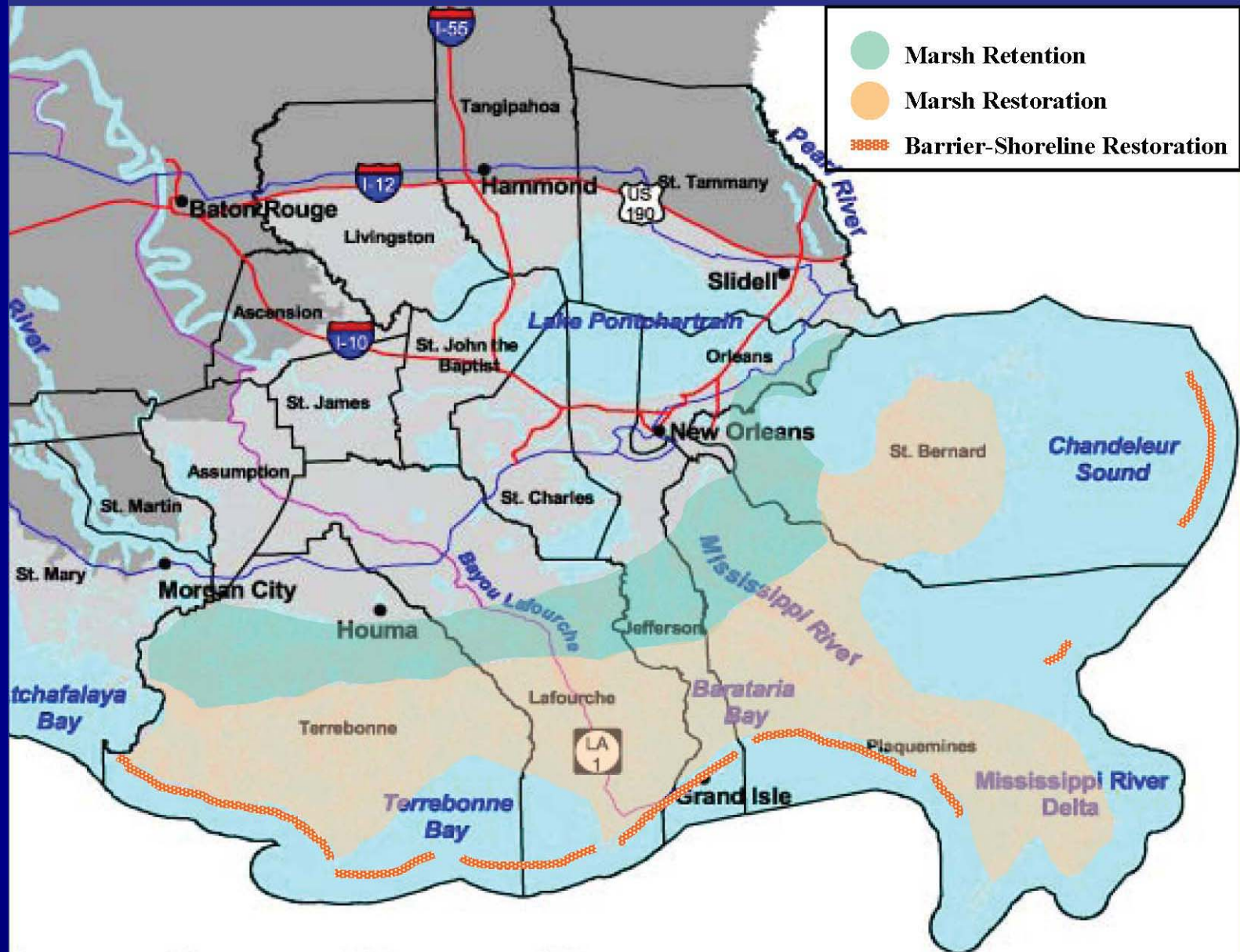
Draft: Sept. 28, 2005



**USGS**  
science for a changing world



# Strategic Natural Lines of Defense



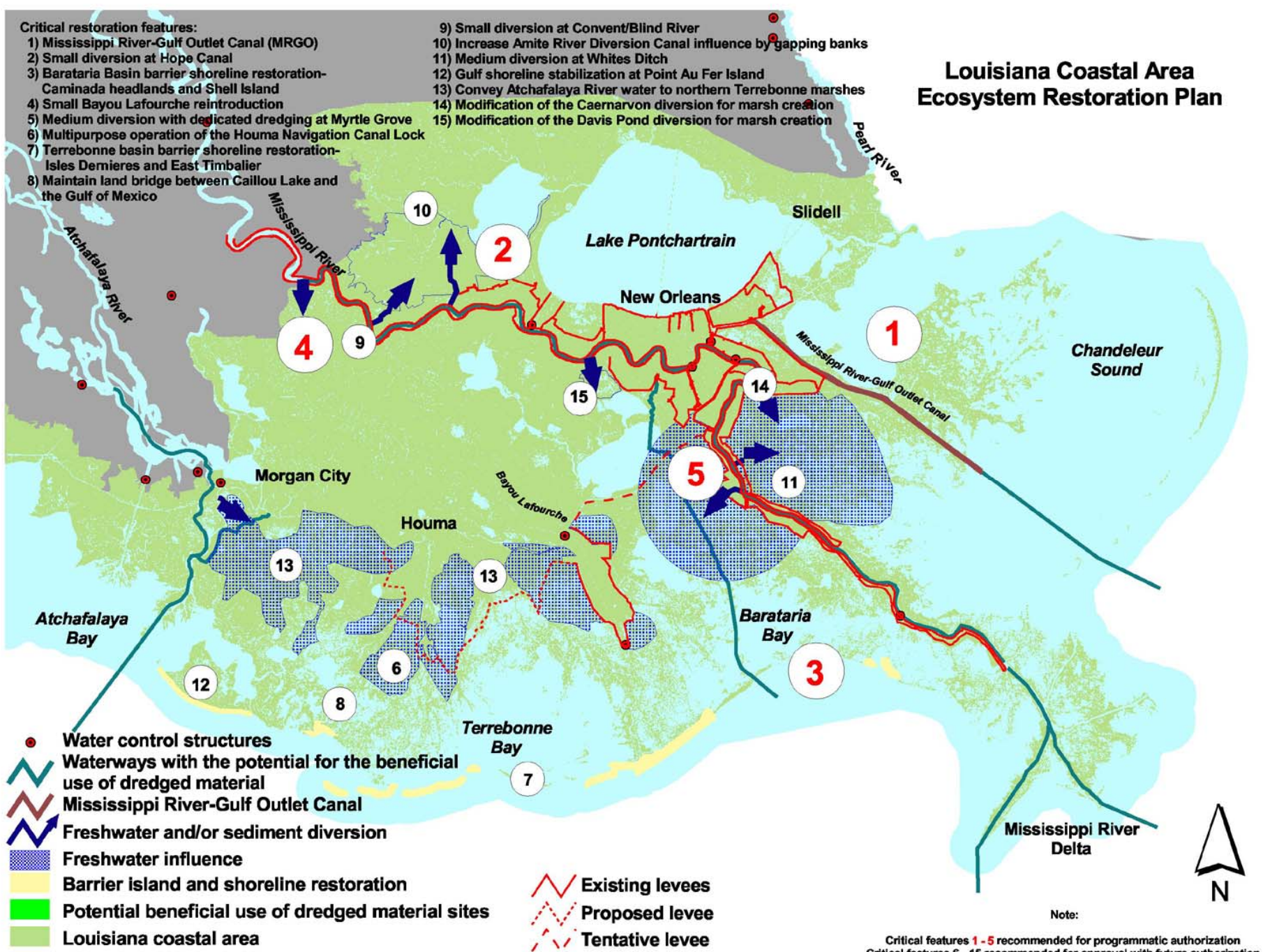
# **LCA Plan and Protection Levees Existing or Under Study**



# Louisiana Coastal Area Ecosystem Restoration Plan

## Critical restoration features:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1) Mississippi River-Gulf Outlet Canal (MRGO)</li> <li>2) Small diversion at Hope Canal</li> <li>3) Barataria Basin barrier shoreline restoration-Caminada headlands and Shell Island</li> <li>4) Small Bayou Lafourche reintroduction</li> <li>5) Medium diversion with dedicated dredging at Myrtle Grove</li> <li>6) Multipurpose operation of the Houma Navigation Canal Lock</li> <li>7) Terrebonne basin barrier shoreline restoration-Isles Dernieres and East Timbalier</li> <li>8) Maintain land bridge between Caillou Lake and the Gulf of Mexico</li> </ul> | <ul style="list-style-type: none"> <li>9) Small diversion at Convent/Blind River</li> <li>10) Increase Amite River Diversion Canal influence by gapping banks</li> <li>11) Medium diversion at Whites Ditch</li> <li>12) Gulf shoreline stabilization at Point Au Fer Island</li> <li>13) Convey Atchafalaya River water to northern Terrebonne marshes</li> <li>14) Modification of the Caernarvon diversion for marsh creation</li> <li>15) Modification of the Davis Pond diversion for marsh creation</li> </ul> |
|--|--|



Note:

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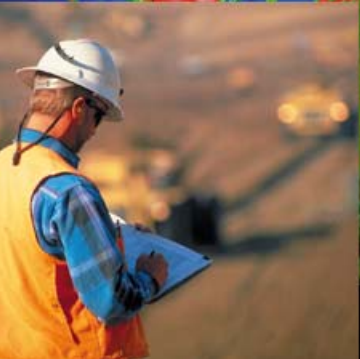
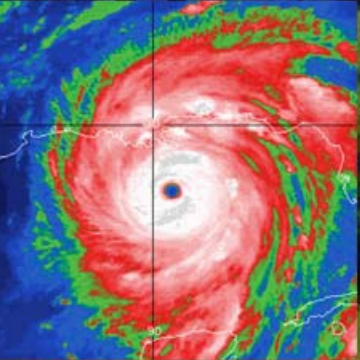
# Prioritization

- **The LCA Near-term Plan and earlier larger plans provide restoration coincident with the existing or proposed storm protection**
- **The five critical features recommended for conditional authorization provide benefit to lines of defense**
- **Areas of increased priority:**
  - **Beneficial Use of Dredged Material**
  - **Modifications to Existing Structures**





US Army Corps  
of Engineers®



# Cat 5 Louisiana Coastal Protection & Restoration Project



# Infrastructure





**Oil facility in Cameron LA damaged**



**Sandbags at Houma Airport  
for Montegut levee**





# Communities



**Shrimp boat in marsh near Dulac, Louisiana**





**Pointe A La Hache River levee**





**Marine One over Cameron LA after Hurricane Rita**





# Direction of Congress

- **Design flood control, coastal restoration, and hurricane protection measures...**
- **Storm surge equivalent to a Category 5 hurricane**
- **Close coordination with the State of Louisiana**



# Team Composition

**We will work with the public and meet the direction of Congress**

- **US Army Corps of Engineers**
- **LA Coastal Protection & Restoration Authority**
- **LA Dept. of Natural Resources**
- **LA Dept. of Transportation & Development**
- **LA Dept. of Wildlife & Fisheries**
- **LA Dept. of Environmental Quality**
- **Louisiana State Univ**
- **Univ New Orleans**
- **Tulane Univ**
- **Notre Dame Univ**
- **Univ North Carolina**
- **Univ Maryland**
- **Univ Delaware**
- **MIT**
- **Others educational institutions**
- **NOAA Hurricane Center**
- **US Environmental Protection Agency**
- **National Marine Fisheries Service**
- **US Fish & Wildlife Service**
- **US Geological Survey**
- **US Natural Resources Conservation Service**
- **Dutch Rijkswaterstaat**





# Planning and Design Workshops



## Problem Definition

- ▶ **Wind, Waves and Water  
(Dec 2005 Vicksburg, MS)**
- ▶ **Initial Plan Formulation  
(Feb 2006 Lafayette, LA)**
- ▶ **Engineering Technical Approaches and  
Innovations (Mar 2006 Vicksburg, MS)**



## Implementation

- ▶ **Public Scoping Meetings (Mar 2006)**
- ▶ **Follow up meetings (ongoing)**



# Reports to Congress Schedules

- **Due for submittal in June 2006**
  - ▶ Preliminary Technical Report
- **Due to Congress in December 2007**
  - ▶ Final Technical Report
  - ▶ Programmatic Environmental Impact Statement





# Preliminary Technical Report Outline

- **THREATS** What storm are we designing against?
  - ▶ Category 5 winds, surge and waves
- **RISKS** What is at stake?
  - ▶ Communities, industries, coastal resources, strategic resources
- **PLANS** What can be done to protect against design storm threats?



# Ongoing Planning Efforts

## **CPRA Integrated Master Plan**

**Complete draft October 2006.**

## **USACE Plan**

**Preliminary Technical Report, June 2006.**

**Final Technical Report, December 2007.**

## **LRA Louisiana Speaks initiative**

**Complete December 2006.**





# **Additional Information**

**[www.lca.gov](http://www.lca.gov)**

**[www.lacpr.usace.army.mil](http://www.lacpr.usace.army.mil)**

**SW Pass Light, MS River delta**